Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-17 (cancelled)

Claim 18 (Currently Amended): A method of producing ~~an isoprenoid compound~~ farnesol comprising culturing a microorganism in a fermentation medium, wherein said microorganism has an isoprenoid metabolic pathway having a squalene synthase gene and at least one gene for ~~an enzyme~~ a phosphatase having farnesyl ~~phosphate~~ pyrophosphate as a substrate ~~to produce an isoprenoid compound~~,

wherein the microorganism is genetically modified to decrease the action of the squalene synthase gene and to increase the action of the ~~enzyme~~ phosphatase having farnesyl ~~phosphate~~ pyrophosphate as a substrate, whereby ~~said isoprenoid compound~~ farnesol is produced.

Claims 19, 20 (Cancelled)

Claim 21 (Previously Presented): The method of claim 18, wherein said microorganism is further genetically modified to increase the action of HMG-CoA reductase.

Claim 22 (Previously Presented): The method of claim 21, wherein the action of HMG-CoA reductase is increased by overexpression of HMG-CoA reductase or the catalytic domain thereof in the microorganism.

Claim 23 (Previously Presented): The method of claim 22, wherein said genetic modification to increase the action of HMG-CoA reductase comprises transformation of said microorganism with a recombinant nucleic acid molecule that is integrated into the genome of said

microorganism.

Claim 24 (Currently Amended): The method of claim 21, wherein said microorganism is further genetically modified to overexpress ~~a protein selected from the group consisting of acetoacetyl Co-A thiolose, HMG-CoA synthase, mevalonate kinase, phosphomevalonate kinase, phosphomevalonate decarboxylase, isopentenyl pyrophosphate isomerase, farnesyl pyrophosphate synthase,~~ geranylgeranyl pyrophosphate synthase ~~, D-1-deoxyxylulose 5-phosphate synthase, and 1-deoxy-D-xylulose 5-phosphate reductoisomerase~~.

Claim 25 (Currently Amended): The method of claim 24, wherein said genetic modification to overexpress ~~a protein~~ geranylgeranyl pyrophosphate synthase comprises transformation of said microorganism with a recombinant nucleic acid molecule encoding said ~~protein~~ geranylgeranyl pyrophosphate synthase, wherein said recombinant nucleic acid molecule is operatively linked to a transcription control sequence.

Claim 26 (Currently Amended): The method of claim 24, wherein said genetic modification increases expression of a fragment of a gene encoding ~~one of said proteins~~ geranylgeranyl pyrophosphate synthase.

Claim 27 (Currently Amended): The method of claim ~~24~~ 18, wherein the microorganism has been further genetically modified to increase the activity of farnesyl pyrophosphate phosphatase.

Claim 28 (Currently Amended): The method of claim ~~24~~ ~~18~~, wherein the microorganism has been genetically modified to overexpress farnesyl pyrophosphate synthase.

Claim 29 (Previously Presented): The method of claim 18, wherein said microorganism is an erg9 mutant.

Claim 30 (Previously Presented): The method of claim 29, wherein said microorganism comprises a erg9Δ::HIS3 deletion/insertion allele.

Claim 31 (Previously Presented): The method of claim 18, wherein said microorganism is a fungi.

Claim 32 (Previously Presented): The method of claim 31, wherein said fungi is *Saccharomyces cerevisiae*.

Claim 33 (Previously Presented): The method of claim 31, wherein said fungi has been genetically modified to overexpress farnesyl pyrophosphate synthase.

Claim 34 (Previously Presented): The method of claim 31, wherein said fungi is a yeast and said yeast is blocked in the ergosterol pathway and is genetically modified to take up exogenous sterols under aerobic conditions.

Claims 35-53 (Cancelled)

Claim 54 (New): A method of producing farnesol comprising culturing a microorganism selected from the group consisting of *S. cerevisiae* and *E. coli*. in a fermentation medium, wherein said microorganism has an isoprenoid metabolic pathway having a squalene synthase gene and at least one gene for a phosphatase having farnesyl pyrophosphate as a substrate,

wherein the microorganism is genetically modified to decrease the action of the squalene synthase gene and to increase the action of the phosphatase having farnesyl pyrophosphate as a substrate, whereby farnesol is produced.